

WHAT IS CLAIMED IS:

1. A fiber array housing a stripped fiber in a V-groove of a V-groove substrate comprising;

a fiber fixing substrate fixing the stripped fiber;

a peripheral adhesive B disposed around the stripped fiber;

wherein an end face of the peripheral adhesive B is recessed with respect to an end face of the fiber.

2. The fiber array according to claim 1, wherein a recess depth x that the end face of the peripheral adhesive B is recessed with respect to the end face of the fiber is related to a water absorption ratio ϕ of the peripheral adhesive and a length over which the optical fiber is adhered to the V-groove by the equation $x = 0.1 \times (\phi \times L) / 2$.

3. The fiber array according to claim 1, wherein a recess depth x that the end face of the peripheral adhesive B is recessed with respect to the end face of the fiber is at least $0.1 \mu\text{m}$.

4. The fiber array according to claim 2, wherein a recess depth x that the end face of the peripheral adhesive B is recessed with respect to the end face of the fiber is at least $0.1 \mu\text{m}$.

5. The fiber array according to any one of claims 1 to 4, wherein the end face of the fiber is flush with the end face of the fiber array or protrudes therefrom.

6. The fiber array according to any one of claims 3 or 4, wherein the end face of the peripheral adhesive B is recessed at most $10 \mu\text{m}$ from the end face of the fiber array.

7. The fiber array according to any one of claims 1 to 4, wherein the peripheral adhesive B has a Young's modulus of at least 0.03GPa.

5 8. A method for fabricating a fiber array in accordance with claim 1 wherein the end face of the peripheral adhesive B is recessed with respect to end faces of the fibers, comprising:

after polishing an end face of the assembled fiber array, ashing or etching the end face at which the end of the peripheral adhesive B and the end face of the fiber are located.

9. An optical device that is connected/fixed to a fiber array according to any one of the claims 1 to 4.